

REMARKS

Favorable reconsideration of this application in view of the foregoing amendments and remarks to follow is respectfully requested. Since the present amendment raises no new issues, and in any event, places the application in better condition for consideration on appeal, entry thereof is respectfully requested.

Before addressing the specific grounds of rejection raised in the outstanding Office Action, applicants have amended Claim 1 to positively recite that the inventive method forms a coating of sonochemically aminated TATB on secondary explosive crystals which binds the secondary explosive crystals. Support for this amendment to Claim 1 is found throughout the originally filed application. See, for example, Page 4, lines 1-9 and 20-22 as well as Page 5, lines 3-5.

Since the above-mentioned amendment to Claim 1 does not add new matter into the originally filed application, entry thereof is respectfully requested. Applicants respectfully submit that the amendment to Claim 1 was performed to clearly indicate that during the claimed deposition step a coating of TATB is formed on the secondary explosive crystals which coating serves as a binder to bind the secondary explosive crystals together.

Claims 1, 3-7 and 10 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of U.S. Patent No. 3,985,595 to Benziger ("Benziger") and U.S. Patent No. 6,547,899 to Lee et al. ("Lee et al."). Claim 11 stands rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of Benziger, Lee et al. and U.S. Patent No. 6,425,966 to Highsmith et al. ("Highsmith et al.").

Applicants respectfully submit that the claims of the present application are not rendered obvious by the combined disclosures of Benziger, Lee et al. and optionally Highsmith et al.

Specifically, the combined disclosures of Benziger, Lee et al. and optionally Highsmith et al. do not teach or suggest a process for producing an insensitive explosive mixture comprising *depositing sonochemically aminated 1,3,5-triamino-2,4,6-trinitrobenzene (TATB) in an amount of less than 15 % by weight onto secondary explosive crystals to form a coating of said TATB on said secondary explosive crystals which binds said secondary explosive crystals.*

Benziger (the primary reference of each of the obviousness rejections) provides a highly insensitive and heat resistance **plastic-bonded explosive** which includes 90 weight % TATB and 10 weight % of a fully saturated copolymer of chlorotrifluoroethylene and vinylidene fluoride. This prior art explosive is made utilizing a slurry process such as is described, for example, at

Col. 1, lines 30-67. In accordance with the disclosure of Benziger, the slurry process *precipitates the plastic phase out on the explosive.* TATB alone or admixed with HMX can be used in Benziger as the explosive. Hence, Benziger discloses a method wherein a copolymer of chlorotrifluoroethylene and vinylidene fluoride coats the surface of TATB or an admixture of TATB and HMX. The copolymer is also used as the binder in Benziger. Applicants respectfully submit that the prior art method taught and suggested by Benziger is different from the claimed invention wherein the TATB serves as a coating for explosive crystals which binds the explosive crystals together.

Lee et al. does not alleviate the above defect in Benziger since the applied secondary reference also fails to teach or suggest applicants' claimed process for producing an insensitive explosive mixture wherein a coating of sonochemically aminated TATB is formed on secondary explosive crystals which binds the secondary explosive crystals.

Lee et al. provides a method for forming fine TATB powder using ammonium hydroxide solution and ultrasonic irradiation. The applied secondary reference, however, does

not teach or suggest a step of depositing the same onto explosive crystals such that a coating is formed on the crystals which binds the crystals together.

Applicants observe that at best the combination of Benziger and Lee et al. would lead to a process wherein the TATB is first made in accordance with the disclosure of Lee et al. and thereafter such TATB would be slurried and coated with a copolymer such as described in Benziger.

Applicants thus submit that the combined disclosures of Benziger and Lee et al. do not render the claimed invention obvious. Hence, the rejection of Claims 1, 3-7 and 10 under 35 U.S.C. § 103 citing the combination of Benziger and Lee et al. has been obviated.

Reconsideration and withdrawal thereof are respectfully requested.

With respect to the obviousness rejection citing the combination of Benziger, Lee et al. and Highsmith et al., applicants observe that the combination of Benziger and Lee et al. is defective for the reason mentioned above. Highsmith et al. does not alleviate the above defect in the combination of Benziger and Lee et al. since the applied tertiary reference also does not teach or suggest applicants' claimed method which provides a coating of sonochemically aminated TATB on secondary explosive crystals which binds the secondary explosive crystals.

Highsmith et al. provides a plasticizer that is at least as energetic as nitrate ester-containing plasticizers, but exhibits far superior shock sensitivity and thermal stability than the nitrate ester-containing plasticizers. The plasticizer disclosed in Highsmith et al. is 2,2-dinitro-1,3-propanediol diformate (ADDF). Applicants find no disclosure in Highsmith et al. of the claimed method which provides a coating of TATB onto explosive crystals which serves to bind the crystals together.

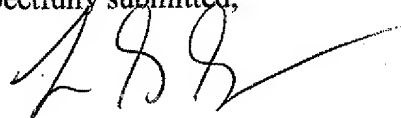
Applicants thus submit that the rejection of Claim 11 (which ultimately depends on Claim 1) under 35 U.S.C. § 103 citing the combination of Benziger, Lee et al. and Highsmith et al. has been obviated. Reconsideration and withdrawal thereof are respectfully requested.

The § 103 rejections also fail because there is no motivation in the applied references which suggest modifying the methods to include the various processing steps and elements recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the

modification." In re Vaack, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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